

Remarks

Status of the Claims

Claims 1, 4-13, 16-17, 20-25, 28, 31-36, 39, 41 and 43 are pending in the present application.

Claim 1 has been amended to include the claim elements of claims 2 and 3. Claims 2 and 3 have accordingly been cancelled.

Claim 17 has been amended to include the claim elements of claims 18 and 19. Claims 18 and 19 have accordingly been cancelled

Claim 28 has been amended to include the claim elements of claims 29 and 30. Claims 29 and 30 have accordingly been cancelled.

Claims 4-13, 16, 18, 20-25, 29, 31-36 have been amended to recite a “computerized method” instead of a “method”.

Claims 40, 42 and 44 have been cancelled.

Objections to the Abstract

The Examiner objected to the abstract for being more than 150 words. In response, the Applicants have shortened the abstract. It is respectfully submitted that the abstract is in condition for allowance.

Objections to the Specification

The Examiner objected to the specification for not referencing elements 504 and 513 from Figure 5 or element 1106 from Figure 11. In response, Applicants have amended Figures 5

and 11 to remove references to 504, 513 and 1106. It is respectfully submitted that the specification and drawings are now in condition for allowance.

Objections to the Claims

The Examiner objected to all claims depending from independent claims 17 and 28. Specifically, the Examiner stated that “Independent claims 17 and 28 reflect a “computer method” within their preambles but the dependent claims state “a method”. The Office suggest restating “computer method” of the dependent claims for consistency.” Applicants believe the Examiner may have meant “computerized method” instead of “computer method,” as this is the terminology that is used in the independent claims. Further, Applicants are unsure why the Examiner objected to claims depending from independent claims 17 and 28 but not independent claim 1, which also includes “computerized method” in the preamble. Accordingly, claims 4-13, 16, 18, 20-25, 29, 31-36 have been amended to include “computerized method” in-line with the Examiner’s suggestion for consistency.

Rejections under 35 U.S.C. §101

The Examiner rejected claims 1-2, 4-13, 16-18, 20-25, 28-29, 31-36 and 39 under 35 U.S.C. §101 for being directed to an abstract idea of a mathematical construct rather than a practical application of the idea. The Examiner recommended amending claims 3, 19 and 30 into their respective independent claims to overcome the rejection. In accordance with the Examiners suggestions, Applicants have amended claim 3 and intervening claim 2 into independent claim 1, claim 19 and intervening claim 18 into independent claim 17, and claim 30 and intervening claim 29 into independent claim 28. Claims 2, 3, 18, 19, 29, 30 have correspondingly been cancelled. Applicants respectfully submit that this §101 rejection has been overcome and claims 1, 4-13, 16-17, 20-25, 28, 31-36 and 39 are in condition for allowance.

The Examiner further rejected claims 40, 42 and 44 under 35 U.S.C. §101 for being directed to a data signal as opposed to a computer readable medium encoded with a data signal. In response, Applicants have cancelled claims 40, 42 and 44.

Rejections under §112, first paragraph

The Examiner rejected all pending claims for not being supported by a specific asserted utility or a well-established utility. Applicants respectfully assert, however, the Applicants' specification provides support for a specific asserted utility in satisfaction of §112 first paragraph. As stated in MPEP §2146.01(c), "If a statement of utility in the specification contains within it a connotation of how to use, and/or the art recognizes that standard modes of administration are known and contemplated, 35 U.S.C. 112 is satisfied. In re Johnson, 282 F.2d 370, 373, 127 USPQ 216, 219 (CCPA 1960); In re Hitchings, 342 F.2d 80, 87, 144 USPQ 637, 643 (CCPA 1965). See also In re Brana, 51 F.2d 1560, 1566, 34 USPQ2d 1437, 1441 (Fed. Cir. 1993)."

Thus, the bar to satisfy utility under §112 first paragraph is rather low: a mere statement of utility, anywhere in the specification, that includes a connotation of how to use, will satisfy the requirement. Between page 1, line 4 and page 2, line 5 Applicants provide several connotations of how to use the invention. For example, starting from the very first sentence of the application, the Specification states that:

"In computer aided design (CAD) designers use computers to model three-dimensional objects **to assist in the design and manufacture of parts...** The shape and smoothness of surfaces is particularly important when the surface is visible in a product. These visible surfaces, such as CLASS_A surfaces, are typically used in vehicle and consumer goods. For example, a car hood is a CLASS_A surface that must be smooth because the smoothness can affect how a potential buyer views the car... [c]urrently, creating high quality CLASS_A surfaces can require a strong expertise, particularly to obtain a good organization of the control points for these surfaces. This organization can be obtained manually by allowing a

designer to manipulate individual points using a user interface and control point handling. The designer can start by amplifying the defects by compressing or changing the sights, or zooming into and out of the surface. **After amplifying the defects, the designer usually has to manipulate individual control points in the network of points.”**

The rest of the specification then discloses a “computerized method of manipulating control points.” See page 2, line 11. Further, the “control points in these methods can define a surface, which can include Béziars surfaces and Nurbs surfaces. The surface can be represented in a CAD system. The surface can also include a three-dimensional surface.” See page 2, lines 26-28. The specification then discloses greater detail on how to manipulate the control points.

Thus, it is clear from Applicants’ specification that the utility of the manipulation of control points is to assist in the design and manufacture of three-dimensional objects by substantially removing defects in a CAD mode. The quoted statements provide sufficient connotations of use to satisfy §112, first paragraph. Therefore, Applicants respectfully submit that the §112 rejection has been overcome and pending claims 1, 4-13, 16-17, 20-25, 28, 31-36, 39, 41 and 43 are in condition for allowance.

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Conclusion

Claims 1, 4-13, 16-17, 20-25, 28, 31-36, 39, 41 are now pending and believed to be in condition for allowance. Applicants respectfully request that all pending claims be allowed.

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Respectfully submitted,



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Eric Lerner
Registration No. 46,054
Attorney for Applicants

MAILING ADDRESS

Customer No. 27383
Clifford Chance US LLP
31 West 52nd Street,
New York, NY 10019-6131
212-878-8232 – tel.

Amendments to the Drawings

The specification was objected to for not referencing elements 504, 513 and 1106. In response, Figure 5 has been amended to remove elements 504 and 513 and Figure 11 has been amended to remove element 1106. Applicants respectfully submit that the foregoing amendments to the Drawings addresses and overcomes the objections to the specification. Replacement Drawing Sheets are attached hereto as Appendix A, pursuant to 37 CFR 1.121(d).